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California Air Resources Board
1001 I Street
Sacramento, CA 95814
VIA ONLINE SUBMISSION

RE: Low Carbon Fuel Standard Potential Amendments

The Western Propane Gas Association (WPGA) is pleased to submit its comments in response to the Low Carbon Fuel Standard (LCFS) proposed amendments. Aligned with our previous letter dated February 20, 2024, the focus of this letter is on the value of renewable propane as an eligible fuel for LCFS, and to reiterate key points.

CORRECTING CI OF CONVENTIONAL PROPANE IN GREET MODEL

We thank CARB staff for recognizing the value of renewable propane in decarbonizing "hard-to-electrify" segments of California, and for calculating a lower Carbon Intensity (CI) of conventional propane under the GREET4.0 proposed model (Lookup Table Pathways, Pg 24)[1]. However, WPGA supports adjusting the baseline CI for propane further based upon corrected assumptions and modeling. See our letter dated April 29, 2023[2] for detailed CI calculations.

In short, WPGA again proposes that CARB update its modelling of the CI for conventional propane within the lookup table to result in **80.06 gCO2eq/MJ** due to corrections on:

- Upstream combustion emissions – from a CI of 64.84 to 64.58 (determined by existing GREET 2021 model updates for school buses),
- Assumptions regarding refining source – from 75% oil/25% natural gas mixture for conventional propane to 59.5% oil/40.5% natural gas within California per Argonne National Laboratory reporting[3], and
- Transport distance for delivery – fewer than 100 miles traveled for final delivery, based upon industry reporting and best practices.

Previous letters to CARB, which highlight the errors in modeling through the Lookup Table Pathways, have yet to be substantively addressed by staff.

AIR & WATER QUALITY BENEFITS OF TRANSITIONING TO PROPANE

The current CI of renewable propane ranges from half- to one-quarter the CI of California's electric grid – and new sources are lower still. Like conventional propane, renewable propane has no methane. Therefore, it does not suffer leakage issues or fugitive GHG emissions like natural gas. It also does not run the risk of groundwater or soil intrusion from spills like liquid fuels or degrading electronic waste, such as batteries or solar panels.

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[1] https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/ca-greet/lut_update_2023_2.pdf
[2] WPGA, Comment Letter, RE: GREET4.0 – Propane Carbon Intensity Calculation, Submitted to CARB April 29, 2023
[3] Backes, S. E., Beath, J., Sebastian, B., & Hawkins, T. R. (2020, September). Sources of Propane Consumed in California. Chicago; Argonne National Laboratory.

There would be great air quality benefit to transitioning from fuels with significant air emissions like CARBOB (California gasoline blend), natural gas, and diesel, to the no-SOx, no-black-carbon, and ultra-low-NOx solution of renewable propane. To meet 2022 Scoping Plan goals and other emission reduction mandates such as the State Implementation Plan (SIP), renewable propane serves as the bridge fuel to meet timeline goals in fuel sectors where electric technology is not yet affordable nor feasible. It is the perfect fuel for hard to decarbonize areas and sectors of the state, like off-road and heavy-duty transportation. Renewable propane can be prioritized in underserved communities where adequate electric infrastructure is not afforded to them or where service is intermittent due to power shutoffs and natural disasters.

TRANSPORTATION EMISSIONS, SUSTAINABILITY, AND BOOK & CLAIM

Acknowledging that the transportation of fuel is included in the CI, ideally renewable propane production would be in California. There are already in-state facilities producing renewable propane, with additional sources coming rapidly online. One source is Global Clean Energy, which utilizes the energy-rich cover crop camelina seed: currently qualified as an LCFS compliant fuel. While many renewable diesel and sustainable aviation fuel (SAF) plants produce renewable propane, it is currently being utilized onsite to lower the CI of other existing LCFS-compliant fuels. This limits the amount of renewable propane on the market.

The proposed sustainability audit presented by CARB staff during the April 10th public workshop would be costly for farmers to adopt and creates another barrier to entry for promising new intermediate crop feedstocks like camelina. Intermediate crops are harvestable cover crops grown on existing farm acres during the otherwise idle or fallow period, providing soil health and climate-smart benefits. Camelina is an intermediate crop harvested to create ultra-low carbon renewable fuel feedstocks for renewable propane, as well as other renewable fuels.

In addition to the cost concern, the proposal would establish a precedent about sustainability outside the purview of the LCFS regulation, such as the review of economic sustainability of the applicant (e.g., farm) and the review of social practices (e.g., worker treatment). We encourage further dialogue and industry participation before sustainability audit criteria are adopted.

WPGA proposes that CARB apply its Book & Claim and avoided emissions reporting to renewable propane. While renewable propane is currently only deliverable in California by truck or rail, CARB, through amendments, has the capacity to generate enhanced distribution and use of renewable propane. Given renewable propane's low CI score, CARB could, through adopting its Book & Claim and avoided emissions framework, play an instrumental role in lowering the CI score in California and increasing production to offset fuels with larger air quality or GHG emissions footprints.

Similar to its provisions pathway for renewable biomethane, CARB could develop a provisional pathway for avoided emissions for renewable propane.

- One pathway would involve booking propane produced outside of California, and exchanging for renewable propane produced in California, allowing a lower CI score to avoid the added CI for transmission.
- A second proposed provisional pathway would account for reduced or nominal CI additions for renewable propane shipped by rail or truck, as renewable propane should not be excluded by a failure of useful infrastructure.

CARB has a unique potential to stimulate renewable propane production and demand, while lowering CI scores and improving environmental justice communities, all by providing for Book & Claim and avoided emissions accounting for renewable propane. Through this process, CARB

can ensure the best available fuel for all communities and uses, while also lowering the CI score of the fuel utilized.

STREAMLINE PATHWAY APPROVAL PROCESS FOR DELIVERY MODELS

Alongside Book & Claim efforts, there are other steps that CARB can take that would improve the supply and usage of renewable propane within California. WPGA proposes that CARB adopt a streamlined approval process for the following additional delivery models of fuel:

1) Pathways that would incentivize production of electricity used in the charging of battery electric vehicles: Currently, renewable and conventional propane can be used in fast-charging mobile or stationary applications to charge battery electric vehicles across many classes. Offering a streamlined pathway to incorporate the delivery of already-approved renewable propane to these charging applications is directly in line with existing LCFS intent and will provide greater reliability for electric vehicle charging networks within California.

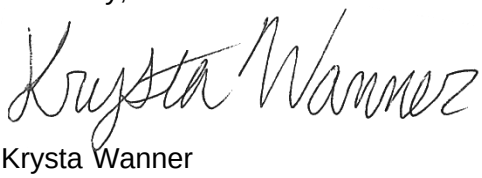
2) Updated GREET model (and/or pathways) that incorporate the usage of renewable fuels or technologies within the transportation of renewable propane for delivery. In-state transportation emissions could further be reduced by using renewable propane to fuel the vehicles involved in transportation and delivery. WPGA is working with vendors to bring ultra-low-NOx renewable propane-powered Autogas vehicles to the California market to supplant diesel. CARB could create a streamlined process to incorporate those reductions in the CI of transportation within the CI of the fuel itself.

CONCLUSION

With approximately 15% of all propane used in transportation being renewable today, the industry has a goal of reaching 100% renewable propane across California's propane transportation market by 2035 or sooner. WPGA remains committed to transitioning its fuel within California and bringing additional resources to the non-transportation markets served by our members.

WPGA appreciates the opportunity to submit feedback on the LCFS potential amendments.

Sincerely,



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